

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A capacitor comprising:
an aluminum case; and
a capacitor stack mounted within the aluminum case, the capacitor stack comprising one or more anodes and one or more cathodes, one of the one or more anodes or one of the one or more cathodes attached to the aluminum case;
wherein the case is adapted to be an active anode or cathode layer to functionally service the capacitor stack.
2. (Original) The capacitor of claim 1, wherein the case is etched and is adapted to be an active cathodic element servicing one or more anodes of the capacitor stack which are adjacent the case.
3. (Original) The capacitor of claim 1, wherein the case is adapted to be an active anodic element.
4. (Original) A capacitor comprising:
an aluminum case having an etched inner surface;
a capacitor stack disposed within the case, the capacitor stack including a plurality of cathode stacks and a plurality of anode stacks, the cathode stacks electrically coupled with the etched inner surface; and
the plurality of anode stacks including a first anode stack disposed adjacent to the etched inner surface, the first anode stack having a major surface facing the etched inner surface of the case and having an electrolyte saturated separator disposed between the etched inner surface and the major surface to facilitate charge storage between the etched inner surface and the major surface.

5. (Original) The capacitor as recited in claim 4, wherein the plurality of anode stacks include a second anode stack disposed adjacent to a lower inner surface, the second anode stack including at least one conductive layer having a second major surface, the second major surface facing the lower inner surface of the case.

6. (Original) The capacitor as recited in claim 4, wherein the plurality of anode stacks comprise etched anode stacks.

7. (Original) The capacitor as recited in claim 4, wherein the case comprises at least 98% aluminum.

8. (Original) A method comprising:

forming and aligning a capacitor stack including at least one anode stack and at least one cathode stack;

etching at least a portion of an inner surface of a capacitor case, the inner surface including an upper inner surface and a lower inner surface;

disposing the capacitor stack in the capacitor case, and an at least one anode stack is adjacent the inner surface of the capacitor case; and

disposing a separator between the at least one anode and the inner surface of the case.

9. (Original) The method as recited in claim 8, further comprising etching layers of the anode stack.

10. (Presently Amended) ~~The method as recited in claim 8, further comprising~~ A method comprising:

forming and aligning a capacitor stack including at least one anode stack and at least one cathode stack;

etching at least a portion of an inner surface of a capacitor case, the inner surface including an upper inner surface and a lower inner surface;

disposing the capacitor stack in the capacitor case, and an at least one anode stack is adjacent the inner surface of the capacitor case;

disposing a separator between the at least one anode and the inner surface of the case; and confronting a major surface of a second anode stack with the lower inner surface of the case.

11. (Presently Amended) ~~The method as recited in claim 8, further comprising~~ A method comprising:

forming and aligning a capacitor stack including at least one anode stack and at least one cathode stack;

etching an entire inner surface of a capacitor case, the inner surface including an upper inner surface and a lower inner surface;

disposing the capacitor stack in the capacitor case, and an at least one anode stack is adjacent the inner surface of the capacitor case;

disposing a separator between the at least one anode stack and the inner surface of the case.

12 – 15. (Canceled)

16. (Original) A capacitor assembly comprising:

at least one anode stack including one or more anode conductive layers and an anode separator;

at least one cathode stack including one or more cathode conductive layers and a cathode separator;

at least one separator disposed between the anode stack and the cathode stack,
each at least one anode stack stacked with the cathode stack to form a capacitor stack;
and

a capacitor case sized to receive therein the capacitor stack, the capacitor case including a conductive surface, and one or more of the anode conductive layers electrically coupled with the conductive surface of the capacitor case.

17. (Original) The capacitor assembly as recited in claim 16, wherein the capacitor case comprises an etched capacitor case.

18. (Original) The capacitor assembly as recited in claim 16, further comprising a cathode feedthrough coupled with at least one cathode stack, the cathode feedthrough extending through and is insulated from an opening of the case.

19. (Original) The capacitor assembly as recited in claim 16, wherein one or more of the anode conductor layers includes an exposed edge coupled with the capacitor case.

20. (Original) The capacitor assembly as recited in claim 16, wherein the one or more anode conductive layers is coupled to the capacitor case by an elongated tab.

21. (Original) The capacitor assembly as recited in claim 16, further comprising a welded connection disposed between at least one of the one or more anode conductive layers and an inner surface of the case.

22. (Original) The capacitor assembly as recited in claim 16, further comprising an epoxied connection disposed between at least one of the one or more anode conductive layers and an inner surface of the case.

23. (Original) The capacitor assembly as recited in claim 16, wherein the case comprises at least 98% aluminum.

24. (Original) The capacitor assembly as recited in claim 16, wherein the capacitor case comprises an etched capacitor case of at least 99.99% aluminum.

25. (Original) The capacitor assembly as recited in claim 16, further comprising at least one edge clip coupled with each of the at least one anode stack, and the edge clip is electrically coupled with an inner surface of the case.

26. (Original) A capacitor assembly comprising:

at least one anode stack including one or more anode conductive layers and an anode separator;

a capacitor case sized to receive therein the anode stack, the capacitor case including a inner conductive surface; and

means for electrically coupling the at least one anode stack with the inner conductive surface.

27. (Original) The capacitor assembly of claim 26, wherein means for electrically coupling comprises an elongated aluminum tab coupled to one of the at least one anode stacks.

28. (Original) A capacitor assembly comprising:

at least one anode stack including one or more anode conductive layers and an anode separator, the one or more conductive layers including an exposed outer anode edge;

at least one cathode stack including one or more cathode conductive layers and a cathode separator;

at least one separator disposed between the anode stack and the cathode stack,
each at least one anode stack stacked with the cathode stack to form a capacitor stack;
an etched capacitor case sized to receive therein the capacitor stack, the capacitor case including a conductive surface, and the exposed outer anode edge electrically coupled with the conductive surface of the capacitor case;

a cathode feedthrough coupled with at least one cathode stack, the cathode feedthrough extending through and is insulated from an opening of the case; and

each of the cathode conductive layers is defined in part by a cathode edge surface, and each of the anode conductive layers is defined in part by an anode edge surface, and the cathode edge surface is offset from the anode edge surface.

29. (Original) The capacitor assembly of claim 28, wherein the capacitor case comprises at least 99.99% aluminum.

30. (Original) A method comprising:

stacking at least one anode stack including one or more conductive anode layers and an anode separator;

stacking at least one cathode stack including one or more conductive cathode layers and a cathode separator;

aligning and stacking the at least one anode stack and the at least one cathode stack to form a capacitor stack;

disposing the capacitor stack within a capacitor case; and

electrically coupling the anode stack with the capacitor case.

31. (Original) The method as recited in claim 30, further comprising etching an inner surface of the capacitor case.

32. (Original) The method as recited in claim 30, further comprising etching the one or more conductive anode layers.

33. (Original) The method as recited in claim 30, further comprising welding the anode stack with the capacitor case.

34. (Original) The method as recited in claim 30, further comprising bonding the anode stack with the capacitor case.

35. (Original) The method as recited in claim 30, further comprising coupling a cathode feedthrough with the cathode stack, and disposing the cathode feedthrough through an opening of the capacitor case.

36. (Original) The method as recited in claim 30, further comprising stacking the conductive cathode layer in an offset position from the anode conductive layer.

37. (Original) The method as recited in claim 30, further comprising exposing outer edges of the one or more conductive anode layers.

38. (Original) The method as recited in claim 37, further comprising coupling the exposed outer edges with the capacitor case.

39. (Original) The method as recited in claim 38, further comprising welding the exposed outer edges with the capacitor case.

40. (New) The method of claim 10, including etching one or more layers of the anode stack.

41. (New) The method of claim 10, further comprising etching the entire upper inner surface and etching the entire lower inner surface of the case.

42. (New) The method of claim 10, further comprising disposing a separator between the second anode stack and the lower inner surface of the case.

43. (New) The method of claim 11, including etching one or more layers of the anode stack.

44. (New) The method of claim 11, further including confronting a major surface of a second anode stack with the lower inner surface of the case.

45. (New) The method of claim 44, further comprising disposing a separator between the second anode stack and the lower inner surface of the case.